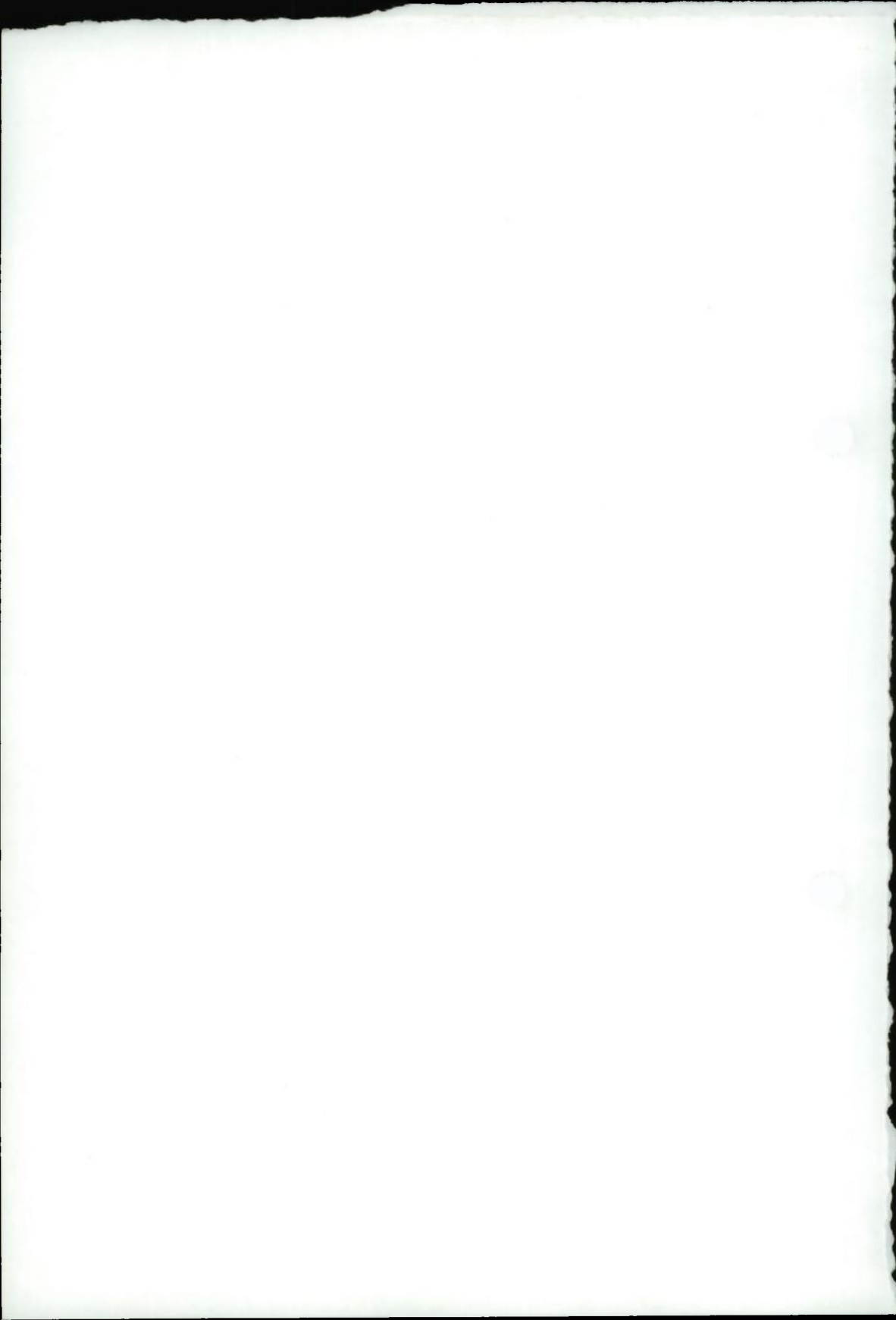


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STATEMENT BY  
  
THE HONORABLE JOHN F. LEHMAN, JR.  
  
BEFORE THE  
  
HOUSE ARMED SERVICES SUB COMMITTEE  
  
ON  
  
SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS  
  
ON  
  
LESSONS LEARNED AND  
  
IMPLICATIONS OF THE FALKLAND ISLANDS CONFLICT

FEBRUARY 3, 1983



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BIOGRAPHY  
JOHN F. LEHMAN, JR.  
SECRETARY OF THE NAVY

One January 23, 1981, President Reagan announced the selection of John F. Lehman, Jr., to be Secretary of the Navy. He was confirmed by the Senate on January 29 and took the oath of office on February 5, becoming the 65th Secretary of the Navy, and one of the youngest men to be appointed SecNav.

Prior to this appointment, Dr. Lehman was President of Abington Corp., a management firm that specialized in defense matters.

He began his career in defense and foreign affairs as a staff member of the Foreign Policy Research Institute from 1967 to 1969 at the University of Pennsylvania. From 1969 to 1974 he served as Special Counsel and Senior Staff Member to Dr. Henry Kissinger on the National Security Council, and from 1974 to 1975 was a Delegate to the Mutual Balanced Force Reduction Negotiations in Vienna. He became Deputy Director of the U. S. Arms Control and Disarmament Agency in 1975, holding that position until 1977.

Upon graduating from the La Salle College High School, Mr. Lehman enrolled in St. Joseph's College, where he earned a B.S. in International Relations in 1964. That same year, Mr. Lehman enlisted in the Air Force Reserve. He continued his education at Cambridge University in England as an Earhart Fellow and graduated in 1967, receiving a B.A. with Honours Law and an M.A. in International Law and Diplomacy. He left the Air Force Reserve and accepted a direct appointment in the rank of Ensign in the Naval Reserve in January 1968. Subsequently, he was designated a Naval Flight Officer (bombardier-navigator) and then Pilot, and has been promoted successively to his current rank of Commander. He is assigned to Medium Attack Wing One, Naval Air Station, Oceana, Virginia. In 1974, he earned his Ph.D. in International Relations from the University of Pennsylvania. He has been a Visiting Fellow at Johns Hopkins School of Advanced International Studies and a Chubb Fellow at Yale.

Dr. Lehman has authored or co-authored several publications on national and international defense and foreign affairs subjects. They include: The Prospects for Arms Control, ed. by J. E. Dougherty and J. F. Lehman, Jr. (McFadden: New York, 1965); Arms Control for the Late Sixties, ed. by J. E. Dougherty and J. F. Lehman, Jr. (Van Nostrand: Princeton, 1967); The Executive, Congress and Foreign Policy, by John Lehman (Praeger: New York, 1976); Aircraft Carriers: The Real Choices, by John Lehman (Sage: 1978); and Beyond the Salt II Failure, by John Lehman and Seymour Weiss (Praeger: New York, 1981).

He was born on September 14, 1942, in Philadelphia, Pennsylvania, and is married to the former Barbara Wieland. They have two children John F., III, 3, and Alexandra, 5. They reside in McLean, Virginia.



# LESSONS AND IMPLICATIONS OF THE FALKLAND ISLANDS CONFLICT

## INTRODUCTION

THE FALKLAND ISLANDS CONFLICT WAS THE FIRST TRULY NAVAL WAR SINCE THE PACIFIC CONFLICT IN WORLD WAR II.

IN TRYING TO RELATE THE LESSONS -- AND THERE ARE MANY TO BE LEARNED FROM THE FALKLANDS WAR -- TO A POTENTIAL CONFLICT WITH THE SOVIET UNION, WE FIRST NEED TO LOOK AT THE WAR IN ABSOLUTE TERMS AND THEN CONSIDER IT IN THE LIGHT OF SOVIET - U.S. CAPABILITIES.

THE ESSENTIAL LESSON FROM THE FALKLAND'S IS CONFIRMATION OF HOW WELL WE WOULD HAVE BEEN PREPARED FOR A SIMILAR EVENT. U.S. NAVY AND MARINE CORPS FORCE STRUCTURE IS SUITED FOR LONG-RANGE ACTIONS OF THIS NATURE ANYWHERE ON THE GLOBE.

MOST OF WHAT HAPPENED SUPPORTS THE ASSUMPTIONS WHICH UNDERLAY ALL THAT WE ARE DOING IN OUR NAVAL EXPANSION PROGRAM. OUR EFFORTS ARE BASED ON ALMOST 40 YEARS OF POST-WORLD WAR II EXPERIENCE IN U.S. NAVAL OPERATIONS IN PEACE AND HOSTILITIES, WITH EXTENSIVE AND SUSTAINED OPERATIONS IN EUROPEAN, ASIAN, AND INDIAN OCEAN WATERS, OFTEN UNDER TENSE REGIONAL CONDITIONS AND IN CLOSE PROXIMITY TO SOVIET OPERATING FORCES.

THE DAY-TO-DAY EVENTS OF THE FALKLANDS CONFLICT ARE BEING STUDIED IN GREAT DETAIL FOR LESSONS IN MANY IMPORTANT AREAS. ADMIRAL SMALL, GENERAL KELLEY AND I WILL DEAL WITH THE MOST PROMINENT OF THESE INCLUDING THE THREE ABOUT WHICH THE COMMITTEE HAS EXPRESSED SPECIAL CONCERN.

## PERSONNEL

AS IN NEARLY EVERY BATTLE IN RECORDED HISTORY, THE PERFORMANCE, TRAINING, AND MORALE OF THE PERSONNEL INVOLVED





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WERE THE MOST IMPORTANT DETERMINANTS IN THE OUTCOME. THE ARGENTINE FORCES RELIED HEAVILY ON CONSCRIPTION AND HAD A LOW EXPERIENCE LEVEL. THEIR ARMED FORCES ARE TRAINED PRIMARILY FOR INTERNAL SECURITY AND BORDER DEFENSE.

THE BRITISH FORCES, LIKE THEIR U.S. COUNTERPARTS, ARE ENTIRELY VOLUNTEER. THEY POSSESSED A CONSIDERABLY HIGHER EXPERIENCE LEVEL. THEIR TRAINING AND EXERCISING IS ORIENTED TOWARD COMBAT AGAINST CONSIDERABLY MORE NUMEROUS AND HEAVILY ARMED SOVIET FORCES. THE BRITISH PARTICIPATE EXTENSIVELY IN A WIDE VARIETY OF OFFENSIVE AND DEFENSIVE NATO MILITARY EXERCISES. THE PERFORMANCE AND MORALE OF PERSONNEL IN ALL ELEMENTS OF THE BRITISH FORCES WAS UNIFORMLY HIGH.

ARGENTINE AIR FORCE AND NAVY PILOTS PERFORMED EXTREMELY EFFECTIVELY DEMONSTRATING A HIGH DEGREE OF EXPERTISE AND COURAGE. MOST OF THE 12,000 ARGENTINE GROUND TROOPS WERE YOUNG, INEXPERIENCED ARMY CONSCRIPTS. THE APPROXIMATELY 1,000 ARGENTINE MARINES WHO TOOK PART IN THE CONFLICT SHOWED A CONSIDERABLY HIGHER LEVEL OF EXPERIENCE AND MORALE THAN THEIR ARMY COUNTERPARTS. COMPARISON OF STAFF PLANNING, LOGISTIC SUPPORT, TROOP EMPLOYMENT, AND OVERALL COMBAT CONDITION OF GROUND TROOPS SUGGEST A SUBSTANTIAL BRITISH ADVANTAGE IN QUALITY OF LEADERSHIP PRECEDING AND DURING THE BATTLE.

### INTELLIGENCE

NEXT TO PERSONNEL, THE MOST IMPORTANT DETERMINANT OF THE BATTLE OUTCOME APPEARS TO HAVE BEEN INTELLIGENCE. FROM A VARIETY OF TECHNICAL AND OTHER SOURCES, THE BRITISH FORCES HAD AVAILABLE TO THEM SUBSTANTIALLY BETTER INFORMATION REGARDING



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ARGENTINE FORCE LEVELS, DEPLOYMENTS, TACTICS AND INTENTIONS THAN HAD THE ARGENTINE FORCES ABOUT THOSE OF THE U.K. SOME KNOWLEDGEABLE OBSERVERS GO SO FAR AS TO SAY THAT WITHOUT THAT SUBSTANTIAL INTELLIGENCE EDGE, THE OUTCOME WOULD HAVE BEEN REVERSED. THE EXPERIENCE OF THE FALKLANDS, HAS SHOWN THE NECESSITY TO HAVE ACCURATE, UP-TO-DATE INFORMATION ON WEAPON AND SENSOR SYSTEMS CAPABILITIES WORLDWIDE WHETHER BELONGING TO ALLY OR POTENTIAL ADVERSARY AS WELL AS AN ENHANCED EFFORT AT COLLECTING AND ANALYZING INFORMATION ON ALL POTENTIAL THREATS -- NOT MERELY ON THE MAJOR THREAT, THE SOVIET UNION.

#### DEFENSE IN DEPTH

THERE ARE OBVIOUS LIMITATIONS IN EXTRAPOLATING USEFUL COMPARISONS FROM A VERY LIMITED CONFLICT. ONLY FIVE ANTI-SHIP MISSILES WERE LAUNCHED AND THESE ONLY DURING DAYLIGHT RAIDS AGAINST AT SEA FORCES ALL BUT LACKING AIR COVER. THE REPEATED SUCCESS OF ARGENTINE AIRCRAFT IN PENETRATING BRITISH DEFENSES AND ATTACKING FORCES AFLOAT AND ASHORE PROVIDES A SOUND BASIS TO DRAW SOME LESSONS. THE BRITISH FLEET LACKED A REAL FLEET AIR DEFENSE IN DEPTH, INCLUDING THE ESSENTIAL KEYSTONE OF AIRBORNE EARLY WARNING, AND LONG-RANGE AIR DEFENSE FIGHTERS WITH MULTIPLE MISSILE CAPABILITY. VIRTUALLY NONE OF THE AIRCRAFT WHICH HIT THE BRITISH SHIPS FROM MAINLAND BASES IN ARGENTINA COULD HAVE DONE SO HAD THERE BEEN MODERN, FULL-SIZED CARRIER AIRWINGS IN THE OPPOSING FORCE. A WELL-ROUNDED COMPLEMENT OF AERIAL SURVEILLANCE, INTERCEPTORS, ANTI-SUBMARINE AIRCRAFT AND ALL-WEATHER ATTACK BOMBERS WOULD HAVE MADE ALL THE DIFFERENCE. THE BRITISH WERE FURTHER HAMPERED BY A



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LACK OF MODERN RADARS, TARGET IDENTIFICATION SYSTEMS,  
DATA MANAGEMENT SYSTEMS, AND ELECTRONIC WARFARE EQUIPMENT  
IN THEIR FLEET.

THE OUTER AIR DEFENSE RARELY CONSISTED OF MORE THAN  
FOUR SEA HARRIERS, EACH WITH A SHORT-RANGE INTERCEPT RADAR,  
CARRYING ONLY TWO AIR-TO-AIR MISSILES EACH. DUE TO THE  
RANGE OF THEIR PATROL STATIONS FROM THE BRITISH FORCES, THE  
SEA HARRIERS WERE CAPABLE OF MAINTAINING STATION FOR ONLY  
ABOUT 20 MINUTES. AGAINST THE INEVITABLE ATTACKERS THAT  
PENETRATED THIS VERY THIN AIR DEFENSE OUTER BARRIER, BRITISH  
SYSTEMS LIKE SEA DART AND SEA WOLF MISSILES GENERALLY PERFORMED  
BETTER THAN EXPECTED, BUT THE COMBATANT SHIPS OF THE FALKLANDS  
FLEET LACKED ADEQUATE "LAST DITCH" CLOSE-IN WEAPONS. OF  
COURSE, THE MERCHANT TYPE SHIPS HAD LITTLE OR NO DEFENSES.  
TWO DESTROYERS, TWO FRIGATES -- ALL EQUIPPED WITH MISSILES  
AND GUNS -- A LANDING SHIP AND A MERCHANT SHIP WERE LOST.  
ANOTHER NINE SHIPS WERE HIT BY BOMBS WHICH, HAD THEY DETONATED,  
COULD HAVE CAUSED THEIR DESTRUCTION. THAT THEY DID NOT WAS  
BOTH A TRIBUTE TO THE COURAGE OF THE ARGENTINE AVIATORS FOR  
PRESSING THE ATTACKS SO CLOSE, AND A LESSON THAT INATTENTION  
TO ORDNANCE FUZING CAN NEGATE THE BEST MILITARY PERFORMANCE.  
THREE SHIPS WERE HIT BY ANTI-SHIP MISSILES, AND TWO OF  
THOSE WERE LOST, BUT TO FIRE, NOT TO THE EXPLOSION OF THE  
MISSILES. IN FACT, THE MISSILES THAT HIT HMS SHEFFIELD AND  
THE ATLANTIC CONVEYOR PROBABLY FAILED TO DETONATE. WE ARE  
CONTINUING TO STUDY THESE ATTACKS -- THE TACTICS EMPLOYED  
AND THE WEAPONS SYSTEMS INVOLVED -- WITH A VIEW TOWARD IMPROVING



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OUR OWN POINT DEFENSE SYSTEMS AND ARE WORKING TOWARD MORE RAPID INSTALLATION OF ANTI-MISSILE SYSTEMS, SUCH AS NATO'S SEA SPARROW, VULCAN, PHALANX, AND THE RAM (ROLLING AIRFRAME MISSILE) SYSTEM. IT IS IMPORTANT TO REMEMBER THAT -- WITH ITS VASTLY SUPERIOR EARLY WARNING AND OUTER AIR BATTLE ASSETS -- THE PERCENTAGE OF "LEAKERS" WHICH COULD GET THROUGH TO AN AMERICAN FORCE WOULD BE VERY MUCH LOWER THAN IN THE FALKLANDS. THOSE THAT DID GET THROUGH WOULD STILL HAVE TO FACE A MUCH THICKER AND MORE CAPABLE SET OF CLOSE-IN DEFENSE LAYERS THAN THE BRITISH WERE ABLE TO PROVIDE.

THE NECESSITY FOR PASSIVE THREAT WARNING SYSTEMS, AND DECOY SYSTEMS LIKE CHAFF WAS AMPLY DEMONSTRATED. CHAFF EXPENDITURE, TO CONFUSE RADARS ON AIRCRAFT AND MISSILES, WAS EXTREMELY HEAVY. WE ARE REEVALUATING THE NEED TO INCREASE THE ALLOWANCES OF CHAFF IN U.S. NAVY SHIPS, AND ALSO THE TACTICS FOR ITS EMPLOYMENT, BASED ON THE FALKLANDS EXPERIENCE. ELECTRONIC WARFARE EQUIPMENT, BOTH TO JAM ENEMY SYSTEMS AND TO DETECT ENEMY RADARS AND COMMUNICATIONS PLAYED A ROLE IN THE CONFLICT. HERE ALSO, THE U.S. NAVY IS LOOKING CLOSELY AT THE REQUIREMENT TO EXPAND ELECTRONIC WARFARE CAPABILITY IN LIGHT OF DEMONSTRATED GREATER THREATS IT FACES.

#### LARGE WARSHIPS VERSUS SMALL WARSHIPS.

ONE OF THE clearest lessons of the Falklands is that smaller, cheaper, less-well armed combatants can be a very false economy because of their much higher degree of vulnerability as demonstrated by the loss of the four Royal Navy ships. If any one of the 14 successful attacks against





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BRITISH SHIPS HAD INSTEAD HIT THE BATTLESHIP NEW JERSEY, IT COULD NOT HAVE DONE SUFFICIENT DAMAGE TO PREVENT CONTINUING OPERATIONS. THE EXOCET MISSILE THAT SANK SHEFFIELD, FOR INSTANCE, WOULD HAVE QUITE LITERALLY BOUNCED OFF THE 17-INCH ARMOR OF THE NEW JERSEY. ONE RECALLS ALSO NUMEROUS SIMILAR INSTANCES IN WORLD WAR II SUCH AS THE SOUTH DAKOTA SUSTAINING 45 HITS FROM 8-INCH NAVAL GUN FIRE AND CONTINUING TO OPERATE, OR WHEN THE JAPANESE BATTLESHIP MUSASHI ABSORBED 14 TORPEDOES AND 22 LARGE BOMBS WHILE STILL CONTINUING TO STEAM AHEAD. NOT ONE OF THE ATTACKS SUSTAINED BY BRITISH SHIPS WOULD HAVE BEEN ABLE TO PENETRATE TO ANY VITAL SPACE ON ANY U.S. AIRCRAFT CARRIER. THE SMALLER CARRIERS DEPLOYED BY THE U.K., BY CONTRAST, ARE FAR MORE VULNERABLE TO COMPLETE LOSS FROM TORPEDO, MISSILE, OR BOMB ATTACKS BECAUSE THEY LACK THE MULTIPLE HULLS, ARMOR PLATE AND REDUNDANT DAMAGE CONTROL AND PROTECTIVE LAUNCHING SYSTEMS OF LARGE U.S. CARRIERS.

THE SMALL BRITISH CARRIERS, THOUGH WELL-DESIGNED AND PROFESSIONALLY MANNED, ARE INCAPABLE OF ACCOMMODATING MODERN HIGH-PERFORMANCE AIRCRAFT. THEY WERE BARELY ABLE TO PROVIDE THE MINIMUM AIR POWER SUFFICIENT TO SUPPORT THE RETAKING OF THE FALKLANDS. DESPITE HEROIC EFFORTS OF THE SEA HARRIER PILOTS, THE BRITISH NEVER ESTABLISHED ANYTHING APPROACHING CONTROL OVER THE SKIES ABOVE THE FALKLANDS. EVEN ARGENTINE TRANSPORT AIRCRAFT WERE ABLE TO LAND AT STANLEY RIGHT UP UNTIL THE NIGHT BEFORE THE SURRENDER. FORTUNATELY FOR THE BRITISH, HOWEVER, THE AIR WAR WAS CONFINED TO DAYLIGHT WHICH MEANT ONLY ABOUT 8 HOURS OUT OF 24.



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A U. S. CARRIER COULD HAVE MAINTAINED A MORE CAPABLE CAP ON STATION ROUND THE CLOCK BASIS IF NECESSARY AND OUR FORCES WOULD HAVE SUFFERED FAR FEWER LOSSES OVERALL BECAUSE OF THE ORDER OF MAGNITUDE, INCREASE IN CAPABILITIES AND PROTECTION.

UNDER PEACETIME CONDITIONS, THE TWO BRITISH CARRIERS ACCOMMODATE ONLY FIVE SEA HARRIERS AND 9 TO 12 SEA KING ANTI-SUBMARINE HELICOPTERS EACH. HMS HERMES, THE LARGER OF THE PAIR, DISPLACED ABOUT 30 PERCENT OF ONE OF OUR NIMITZ CLASS CARRIERS AND -- EVEN WITH THE ENHANCED AIR GROUP LITERALLY JAMMED ON BOARD FOR THE FALKLANDS CONFLICT -- CARRIED A VERY SMALL AIR GROUP OF VERY LIMITED CAPABILITIES: A DOZEN SEA HARRIERS, HALF A DOZEN RAF HARRIERS AND A SMALL NUMBER OF ASW HELICOPTERS. THIS COMPARES TO A U.S. CARRIER GROUP WITH 80 OR MORE FIXED-WING AIRCRAFT AND A HALF A DOZEN LARGE HELICOPTERS.

THE SMALLER CARRIERS ARE FAR LESS SUSTAINABLE. THE SMALL BRITISH V/STOL CARRIERS, PROPELLED BY GAS TURBINES OR, IN THE CASE OF HERMES, STEAM TURBINES, ARE CAPABLE OF ONLY LIMITED ENDURANCE BEFORE REQUIRING REFUELING. THEY ALSO HAVE LIMITED ON-BOARD STOWAGE FOR ORDNANCE. IN THE FALKLANDS, BOTH SHIPS HAD FLIGHT DECKS ENCUMBERED BY STACKS OF BOMBS, MISSILES, AND FUEL TANKS WHICH COULD NOT BE FITTED INTO THE SHIPS' MAGAZINES, THUS MAKING THEM VERY VULNERABLE INDEED HAD ANY ARGENTINE ATTACKERS BEEN ABLE TO LOCATE THESE SHIPS. IN CONTRAST, NUCLEAR-POWERED U.S. CARRIERS NOT ONLY HAVE VIRTUALLY UNLIMITED STEAMING ENDURANCE, THEY ALSO CARRY THOUSANDS OF TONS OF MUNITIONS AND MONTHS' WORTH OF SPARE PARTS FOR ALL OF THEIR EMBARKED AIRCRAFT. ADDITIONALLY, OUR CARRIERS HAVE



EXTENSIVE ON-BOARD REPAIR CAPABILITIES WHICH CANNOT BE PROVIDED ON A SMALL CARRIER. TAKEN TOGETHER THEIR TWO SMALL CARRIERS WERE ABLE TO OPERATE ONLY 30 V/STOL AIRCRAFT AND ABOUT A DOZEN ASW HELICOPTERS AT THE PEAK INTENSITY OF COMBAT ACTIVITY. THAT'S ABOUT 50,000 TONS OF AIRCRAFT CARRIERS TO OPERATE ONE-THIRD OF THE NUMBER OF AIRCRAFT THAT WE CARRY IN ONE 90,000 TON CARRIER.

#### AIRCRAFT PERFORMANCE

V/STOL HARRIER: U.K. HARRIERs, BOTH ROYAL NAVY AND RAF, HAD SURPRISINGLY GOOD RELIABILITY AND VERSATILITY DURING THE BATTLE. THE 28 SEA HARRIERs FLEW MORE THAN 1,300 SORTIES IN 44 DAYS IN DEFENSE OF THE FLEET. THEIR AVAILABILITY WAS EXCEPTIONALLY HIGH -- ALMOST 90%. FEWER THAN ONE PERCENT OF PLANNED MISSIONS WERE SCRUBBED BECAUSE OF THE AIRCRAFT UNSERVICEABILITY. THE RADAR AND ATTACK WEAPON CONTROL SYSTEMS IN THE SEA HARRIER PROVED TO BE RELIABLE AND VERSATILE BUT OF SHORT RANGE. IN AIR-TO-AIR COMBAT, SEA HARRIERs DESTROYED AT LEAST 20 ARGENTINE AIRCRAFT, 16 OF THEM WITH U.S. PRODUCED SIDEWINDER MISSILES. IN MANY ENGAGEMENTS THE SEA HARRIERs WERE ATTACKING AIRCRAFT, WHICH, FOR THE MOST PART, WERE OPERATING AT THE EXTREME LIMITS OF THEIR RANGES AND COULD NOT AFFORD TO MANEUVER IF THEY WERE TO RETURN "HOME" SAFELY. SIMILARLY, THE SEA HARRIERs HAD LIMITED TIME ON STATION AND LIMITED AIR-TO-AIR ORDNANCE LOADS. THEY WERE PLACED AT GREAT DISADVANTAGE BY THE LACK OF ADEQUATE RADAR CONTROLLED CUEING AND VECTORING FOR INTERCEPTS. ON ONLY ONE OCCASION DID THE ARGENTINE AIRCRAFT ACTUALLY ATTEMPT TO INITIATE COMBAT WITH THE SEA HARRIERs.



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THE PERFORMANCE OF BOTH TYPES (RN & RAF) OF HARRIERs IN AIR-TO-GROUND ACTION WAS LESS IMPRESSIVE. TOGETHER THEY DELIVERED FEWER THAN 200 GENERAL PURPOSE BOMBS, INCLUDING ONLY 4 LASER-GUIDED BOMBS, AND HAD LITTLE EFFECT ON THE OUTCOME OF THE LAND BATTLE.

FOUR SEA HARRIERs AND ONE RAF HARRIER WERE LOST IN OPERATIONAL ACCIDENTS AND TWO SEA HARRIERs AND THREE RAF HARRIERs WERE LOST TO ENEMY ACTION, NONE IN AIR-TO-AIR COMBAT.

THE ADVANCED HARRIER AV-8B BEING PROCURED FOR THE UNITED STATES MARINE CORPS WILL PLAY A VERY DIFFERENT, BUT EQUALLY VERSATILE ROLE, IN SUPPORT OF MARINE OPERATIONS. IT IS OPTIMIZED FOR VERY HIGH SORTIE GENERATION AND CLOSE AIR SUPPORT FROM UNPREPARED SITES. A TOTALLY NEW COCKPIT AND CONTROL AUGMENTATION WILL SUBSTANTIALLY REDUCE THE HIGH ACCIDENT RATE EXPERIENCED BY EARLIER HARRIER MODELS WHILE THE RANGE AND PAYLOAD WILL BE NEARLY DOUBLED.

HELICOPTER: HELICOPTERS WERE WITHOUT QUESTION THE MOST VALUABLE AVIATION ASSET OF THE BRITISH FORCES. THEY WERE USED SUCCESSFULLY AS ANTI-SHIP MISSILE PLATFORMS, FOR AT SEA REPLENISHMENT, LOGISTIC SUPPORT, TROOP LIFT, EQUIPMENT LIFT TO THE BATTLEFIELD, COMMAND AND CONTROL, COMMANDO RAIDS, AND MANY UTILITY FUNCTIONS. THREE OF THE FOUR HEAVY LIFT CHINOOK HELICOPTERS WERE LOST ON THE ATLANTIC CONVEYER RESULTING IN A SEVERE SHORTAGE OF MOBILITY FOR HEAVY EQUIPMENT. SINCE THE BATTLE, THE U.K. HAS DEPLOYED AN AIR-BORNE EARLY WARNING RADAR ABOARD SEVERAL SEA KING HELICOPTERS AND OPERATES THEM ROUTINELY.





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THE ARGENTINE FORCES USED THEIR HELICOPTERS ALMOST ENTIRELY FOR BATTLEFIELD LOGISTICS, UTILITY SUPPORT AND SURVEILLANCE.

VULCAN STRIKE AIRCRAFT: FLYING FROM ASCENSION ISLAND, THE RAF UNDERTOOK A TOTAL OF FIVE STRIKE MISSIONS BY VULCAN STRATEGIC JET BOMBERS AGAINST THE FALKLANDS. THREE SINGLE PLANE SORTIES WITH EACH VULCAN CARRYING 21 1000 POUND BOMBS ATTACKED STANLEY AIRFIELD. TWO SINGLE PLANE SORTIES WITH ANTI-RADAR MISSILES ATTACKED ARGENTINE RADAR INSTALLATIONS. EACH OF THESE SORTIES REQUIRED MULTIPLE INFLIGHT REFUELINGS AND HAD VIRTUALLY NO IMPACT ON EITHER THE RADARS OR ON STANLEY AIRFIELD. BOTH THE AIRFIELD AND RADAR INSTALLATIONS REMAINED OPERATING UNTIL THE LAST DAY OF THE WAR.

C-130 HERCULES: THE VENERABLE HERCULES PROVIDED THE BACKBONE OF AIRBORNE LOGISTICS FOR BOTH THE U.K. AND ARGENTINA DURING THE CONFLICT. THEY WERE OPERATED AS AERIAL REFUELERS, WERE REFUELED THEMSELVES, DID AIR DROPS OF CRITICAL RESUPPLY AT SEA AND ASHORE WITH VERY HIGH RELIABILITY ON BOTH SIDES.

A-4 SKYHAWK: THE ARGENTINE NAVY AND AIR FORCE OPERATED 64 SKYHAWK LIGHT ATTACK AIRCRAFT WITH CONSIDERABLE EFFECT, INFLECTING MOST OF THE DAMAGE ON THE BRITISH FLEET.

SUPER ETENDARD: THE ARGENTINE NAVY OPERATED FIVE SUPER ETENDARD FIGHTER BOMBERS (ABOUT THE EQUIVALENT OF THE U.S. A-7E IN CAPABILITY). THEY WERE VERY EFFECTIVE AS THE FIRING PLATFORMS FOR EXOCET MISSILES WITH THEIR ATTACK RADAR AND INERTIAL NAVIGATION SYSTEM PERMITTING THEM VERY LOW LEVEL



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INGRESS, WITH A POP-UP TO FIRE, AND THEN A RAPID EGRESS. THE ARGENTINES DID NOT HAZARD THESE AIRCRAFT IN IRON BOMB ATTACKS OVER THE TARGET.

### LOGISTICS

THE OLD APHORISM THAT AMATEURS TALK ABOUT STRATEGY WHILE PROFESSIONALS TALK ABOUT LOGISTICS WAS VALIDATED AGAIN IN THE FALKLANDS. THE OUTCOME OF THE BATTLE MAY BE SEEN TO BE A FAILURE OF ARGENTINE LOGISTICS AND A MAJOR SUCCESS OF BRITISH LOGISTICS. FOLLOWING THEIR CAPTURE OF THE FALKLANDS, THE ARGENTINES POURED TROOPS AND MILITARY SUPPLIES INTO THE ISLANDS. A LARGE STOCKPILE OF WEAPONS AND MUNITIONS WAS BUILT UP. THE ARGENTINE COMMAND IN THE FALKLANDS, HOWEVER, WAS UNABLE PROPERLY TO DISTRIBUTE THE SUPPLIES AND WEAPONS, HENCE TROOPS IN THE FIELD WERE CRITICALLY SHORT OF SOME ITEMS THAT WERE AVAILABLE IN ABUNDANCE AT SUPPLY DUMPS IN THE FALKLANDS THEMSELVES. ONCE THE BRITISH TASK FORCE ARRIVED IN THE AREA, BULK SUPPLY BY SEA CEASED AND THE ARGENTINE COMMAND WAS ENTIRELY DEPENDENT UPON AIRBORNE RESUPPLY. THESE RESUPPLY FLIGHTS WERE CARRIED OUT AT NIGHT FROM THE MAINLAND TO PORT STANLEY RIGHT UP AND UNTIL THE EVE OF THE SURRENDER. ONLY ONE OF THOSE SUPPLY AIRCRAFT WAS INTERCEPTED AND DESTROYED BY THE BRITISH, AND THE EFFORTS OF SHIP-BASED HARRIERS AND ASCENSION BASED VULCANS TO CLOSE DOWN THE AIRFIELD AT STANLEY WERE TOTALLY UNSUCCESSFUL.

THOUGH THE BATTLE WAS RELATIVELY BRIEF, THE BRITISH FORCES REQUIRED ENORMOUS QUANTITIES OF MUNITIONS, PROVISIONS, FUEL AND OTHER SUPPLIES.



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BRITISH LOGISTICS OPERATIONS WERE HAMPERED BY THE DISTANCES FROM HOME BASES AND SUPPLY DEPOTS, AN INITIAL SHORTAGE OF SHIPPING, AND LIMITED STOCKS OF CERTAIN MATERIEL. FORTY-FIVE MERCHANT VESSELS DESCRIBED BY THE RN AS SHIPS TAKEN UP FROM TRADE (STUFT) WERE USED IN SUPPORTING BRITISH OPERATIONS. THEY INCLUDED A VARIETY OF MERCHANT TYPES -- CONTAINER, ROLL-ON-ROLL-OFF, PASSENGER, TANKER, PLUS SEVERAL SPECIAL PURPOSE SHIPS, SUCH AS THE YOUTH CRUISE SHIP, UGANDA, THAT WAS RAPIDLY CONVERTED TO A HOSPITAL SHIP. FUELS WERE THE MOST CRITICAL LOGISTIC CONSIDERATION, WITH NEARLY ONE-THIRD OF THE STUFT SHIPS BEING TANKERS. MOST OF THE MERCHANT SHIPS WERE RAPIDLY FITTED WITH AT-SEA REFUELLING CAPABILITY AND MARITIME COMMUNICATION SATELLITE TERMINALS. NINETEEN SHIPS WERE ADDITIONALLY FITTED TO OPERATE HELICOPTERS (TWO OF THESE ALSO CARRIED HARRIERS). SOME MERCHANT SHIPS WERE ALSO FITTED WITH 20 MILLIMETER ANTI-AIRCRAFT GUNS.

ASCENSION ISLAND, APPROXIMATELY HALF WAY BETWEEN BRITAIN AND THE FALKLANDS, SERVED AS A STAGING BASE FOR BRITISH FORCES. DURING THE CONFLICT, THE BRITISH LOGISTIC BUILDUP INCLUDED THE AIRLIFTING OF 5800 PERSONNEL AND 6600 TON OF SUPPLIES FROM THE UNITED KINGDOM TO ASCENSION, AN INDICATION OF THE MAGNITUDE OF THE SHORE-BASED LOGISTIC SUPPORT NEEDED FOR AN OPERATION THE SIZE OF THE FALKLANDS CAMPAIGN. IN MANY WAYS THE LOGISTICS PROBLEMS FACING THE BRITISH FORCE OFF THE FALKLANDS WERE SIMILAR TO THOSE FACED BY U.S. NAVAL FORCES DEPLOYED TO THE INDIAN OCEAN SINCE 1979. THE U.S. NAVY HAS ALREADY INSTITUTED SOME CHANGES IN LOGISTICS PLANNING AND



OPERATIONS AS A RESULT OF THOSE EARLIER LESSONS AND IS REFINING THEM IN THE LIGHT OF THE BRITISH EXPERIENCE.

WHILE THE U.S. NAVY HAS DEVELOPED PLANS IN CONJUNCTION WITH THE MARITIME ADMINISTRATION TO USE MERCHANT SHIPS FROM TRADE AND THE READY RESERVE FORCE, MORE EFFORT IS REQUIRED TO DEVELOP SELF-DEFENSE, AVIATION, AND OTHER NAVAL SYSTEMS FOR MERCHANT SHIPS SO EMPLOYED (A MAJOR INITIATIVE OF THE REAGAN ADMINISTRATION HAS BEEN TO INCREASE THE SIZE OF THE RRF FROM 29 MERCHANT SHIPS TO 77 -- ALL INTENDED FOR ACTIVATION WITHIN 5-10 DAYS). THE U.S. NAVY HAS DEVELOPED THE ARAPAHO CONCEPT OF OPERATING HELICOPTERS FROM A CONTAINER SHIP AND HAS EVALUATED AND TESTED THE HARDWARE AT SEA. IT HAS PROVED TO BE A FEASIBLE OPERATION.

THE MAGNITUDE OF EFFORT REQUIRED FROM THE MERCHANT FLEET BEFORE AN OPERATION THE SIZE OF THE FALKLANDS CAN PROCEED SHOULD SERVE TO UNDERLINE THE FACT THAT WHILE THE TASK OF MOBILIZING SUFFICIENT STRATEGIC SEALIFT FOR ADEQUATE CONVENTIONAL DETERRENCE IS DIFFICULT ENOUGH, IT WOULD BE IMPOSSIBLE TO CONDUCT A CONFLICT THAT ENTAILED THE KINDS OF ATTRITION THAT WAS SUFFERED FROM SUBMARINE WARFARE IN WORLD WAR II. ALLIED NAVAL FORCES CAN ONLY DEFEND THE SEALANES BY ENSURING A FORWARD OFFENSIVE DEFENSE AGAINST SUBMARINES.

#### SUBMARINE OPERATIONS

THE ARGENTINE NAVY BEGAN THE CONFLICT WITH TWO OF THEIR FOUR SUBMARINES OPERATIONAL: ONE RELATIVELY NEW GERMAN BUILT DIESEL-ELECTRIC SUBMARINE, AND ONE FORMER US GUPPY TYPE SUBMARINE OF WORLD WAR II CONSTRUCTION. THE GUPPY SUBMARINE SANTA FE WHICH WAS PRESENT WHEN ARGENTINE TROOPS LANDED IN THE FALKLANDS





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WAS TOTALLY DISABLED BY BRITISH FORCES OFF SOUTH GEORGIA  
ON 25 APRIL.

THE GERMAN BUILT SAN LUIS, COMPLETED IN 1974, MADE A PATROL  
OF AN ESTIMATED 36 DAYS DURING THE CONFLICT. THE SAN LUIS  
APPEARS TO HAVE LOCATED AND OPERATED IN THE AREA OF THE MAIN  
BRITISH TASK FORCE. SHE WAS, HOWEVER, UNABLE TO MAKE A SUCCESS-  
FUL ATTACK BECAUSE OF MATERIAL PROBLEMS. THE SUBMARINE'S  
MAIN TORPEDO FIRE CONTROL PANEL WAS NOT OPERATIONAL AND  
IMPROPER WIRING OF THE BACKUP PANEL CAUSED ALL TORPEDOES TO  
BE FIRED ON INCORRECT BEARINGS. THE ARGENTINE TYPE 209 SUBMARINE  
SALTA DID NOT GO TO SEA DURING THE CONFLICT BECAUSE OF PROBLEMS  
WITH HER DIESEL ENGINES. THE BRITISH FORCE PROSECUTED NUMEROUS  
PROBABLE CONTACTS ASSOCIATED WITH SAN LUIS DURING THAT PERIOD  
WITHOUT SUCCESS.

THE ABILITY OF A MODERN DIESEL-ELECTRIC SUBMARINE TO  
ENGAGE A NAVAL TASK FORCE THAT HAS ESSENTIALLY STOPPED MOVING  
TO OPERATE IN A SPECIFIC AREA IS NOT SURPRISING. THESE SUBMARINES  
ARE EXTREMELY QUIET WHEN OPERATED AT VERY LOW SPEEDS AND FOR  
THIS REASON SUBSTANTIAL HELICOPTER, SUB-SURFACE AND SURFACE  
ANTI-SUBMARINE WARFARE DEFENSE IS REQUIRED WHENEVER A NAVAL  
TASK FORCE IS CONSTRAINED TO A LIMITED AREA.

THE U.S. NAVY REMAINS CONVINCED THAT DIESEL-ELECTRIC  
SUBMARINES, AS USEFUL AS THEY MIGHT BE IN SUCH CONSTRAINED  
AREAS, ARE NOT COST-EFFECTIVE FOR UNITED STATES NAVAL MISSIONS.  
THIS WOULD NOT BE THE CASE IF WE COULD NOT COUNT ON MORE THAN  
100 MODERN DIESEL-ELECTRIC SUBMARINES TO CARRY OUT THOSE  
RESPONSIBILITIES IN OUR ALLIED NAVIES.



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AS THE CRISIS ESCALATED IN THE SOUTH ATLANTIC IN LATE MARCH, THREE BRITISH NUCLEAR ATTACK SUBMARINES WERE DIRECTED TO THE FALKLANDS AREA. THEIR ABILITY TO TRANSIT SUCH A LONG DISTANCE AT HIGH SPEED PERMITTED THE UK TO ESTABLISH AN EXCLUSION ZONE OF 200 NAUTICAL MILES IN RADIUS FROM THE CENTER OF THE FALKLANDS EARLY IN THE CONFLICT. THE SSNs BEGANS AT ONCE TO ENFORCE THIS EXCLUSION TO PREVENT ARGENTINE SHIPS FROM FURTHER REENFORCING THE GARRISON IN THE FALKLANDS. THEY WERE SUCCESSFUL. ON 7 MAY, THE BRITISH GOVERNMENT WARNED THAT ANY ARGENTINE WARSHIP SIGHTED MORE THAN 12 MILES FROM THE ARGENTINE COAST WOULD BE REGARDED AS HOSTILE AND SUBJECT TO ATTACK. ULTIMATELY, THE ROYAL NAVY DEPLOYED FIVE SSNs AND ONE DIESEL-ELECTRIC SUBMARINE (HMS ONYX) TO THE SOUTH ATLANTIC. ONE OF THESE SSNs, HMS CONQUEROR, WAS SENT TO SOUTH GEORGIA IN LATE APRIL TO ENSURE THAT ARGENTINE SHIPS DID NOT INTERFERE WITH THE RECAPTURE OF THAT ISLAND BY ROYAL MARINES. THE FOLLOWING WEEK CONQUEROR SUCCESSFULLY INTERCEPTED AND SANK THE ARGENTINE CRUISER GENERAL BELGRANO, USING 50-YEAR OLD STEAM TORPEDOES. FOLLOWING THE SINKING OF THE BELGRANO, THE ARGENTINE NAVY EFFECTIVELY RETIRED FROM ACTION. THUS, THE EFFECTIVENESS OF THE SSNs CAN BE SAID TO HAVE ELIMINATED THE ARGENTINE NAVY FROM THE WAR.

#### SHIP SURVIVABILITY

NO DEFENSE IN DEPTH, HOWEVER EFFECTIVE, CAN BE RELIED ON AS IMPENETRABLE. THUS, NO MATTER HOW GOOD, NAVAL SHIPS MUST BE BUILT TO TAKE SUBSTANTIAL HITS AND KEEP FIGHTING. THE FALKLANDS BATTLE IS RICH IN SUCH LESSONS TO BE RELEARNED.



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GENERAL BELGRANO: THE CRUISER, BELGRANO, WAS SUNK BY A BRITISH SSN FIRING TWO MARK VIII TORPEDOES DESIGNED 50 YEARS AGO, EACH WITH A 750 POUND WARHEAD. THE POOR MATERIAL CONDITION OF THE 44 YEAR OLD CRUISER AND LIMITED DAMAGE CONTROL TRAINING BY THE CREW RESULTED IN RAPID, UNCONTROLLABLE FLOODING AND LOSS OF THE SHIP.

BRITISH CASUALTIES: THE BRITISH LOST ONE DESTROYER TO A FIRE STARTED BY AN UNEXPLODED EXOCET MISSILE HEAD, ONE DESTROYER TO BOMBS, TWO FRIGATES TO BOMBS, ONE LANDING SHIP TO BOMBS, ONE CONTAINER SHIP TO A FIRE CAUSED BY AN EXOCET MISSILE THAT DID DETONATE. IN ADDITION, TWO BRITISH DESTROYERS, 14 FRIGATES, AND ONE LANDING SHIP WERE DAMAGED DURING THE CONFLICT, ALL BY ARGENTINE AIR ATTACKS WITH BOMBS AND ROCKETS, EXCEPT FOR THE DESTROYER GLAMORGAN, WHICH WAS DAMAGED BY A SHORE-LAUNCHED EXOCET MISSILE.

THERE HAS BEEN EXTENSIVE DISCUSSION OF THE EFFECTS OF ALUMINUM IN WARSHIP CONSTRUCTION AND ITS EFFECT ON SHIP SURVIVABILITY. ALUMINUM IS USED IN BRITISH AND AMERICAN SHIPS FOR NON-STRUCTURAL BULKHEADS, LADDERS, AND VENTILATION DUCTS. MOST U.S. WARSHIPS OF POST-WORLD WAR II CONSTRUCTION DO HAVE ALUMINUM SUPERSTRUCTURES BECAUSE OF THE WEIGHT SAVING, PARTICULARLY IMPORTANT WHEN THE SHIPS CARRY RADAR ANTENNAS AND OTHER EQUIPMENT RELATIVELY HIGH ABOVE THEIR CENTERS OF GRAVITY.

THE SHEFFIELD -- WHICH WAS LOST TO AN UNCONTROLLED FIRE AFTER BEING HIT BY AN EXOCET THAT DID NOT DETONATE, HAD A STEEL SUPERSTRUCTURE, ALTHOUGH SOME OF THE BRITISH FRIGATES DO HAVE ALUMINUM SUPERSTRUCTURES. THERE IS NO EVIDENCE THAT



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USE OF ALUMINUM CONTRIBUTED TO THE LOSS OF ANY OF THE BRITISH COMBAT SHIPS. THE DECISION TO PROVIDE A STEEL SUPERSTRUCTURE IN THE NEW ARLEIGH BURKE (DDG 51) CLASS OF U.S. DESTROYERS WAS MADE WELL BEFORE THE FALKLANDS CONFLICT.

IN GENERAL U.S. WARSHIPS HAVE BETTER DAMAGE CONTROL AND FIREFIGHTING FEATURES BUILT INTO THEM THAN ANY OTHER NAVY. TRAINING OF THE CREWS CONSTANTLY AT SEA AND SHORE IN DAMAGE CONTROL HAS REMAINED A FUNDAMENTAL ELEMENT OF U.S. NAVY TRAINING SINCE THE LESSONS OF THE PACIFIC BATTLES OF WORLD WAR II WERE LEARNED THE HARD WAY. THE EFFECTIVENESS HAS BEEN DEMONSTRATED IN SEVERAL CATASTROPHIC PEACE-TIME OPERATIONS, MOST RECENTLY THE NIMITZ CRASH AND FIRE IN JULY 1981. THE BRITISH EXPERIENCE IN THE FALKLANDS, PARTICULARLY WITH CERTAIN BUILDING MATERIALS AND PROCEDURES, IS CAUSING US TO REVISE CERTAIN CONSTRUCTION TECHNIQUES AND DAMAGE CONTROL PROCEDURES, ESPECIALLY WITH REGARD TO OUR SMALLER, FRIGATE TYPE SHIPS.

IN SUMMARY, THE FALKLANDS DEMONSTRATE THAT MODERN WARSHIPS CAN BE DEFENDED AGAINST MODERN WEAPONS LIKE CRUISE MISSILES, BUT THEY MUST HAVE A DEFENSE IN DEPTH AND THEY MUST BE ABLE TO SUSTAIN HITS, ABSORB DAMAGE AND KEEP FIGHTING. ON THE ONE HAND, THE SHEFFIELD WAS NOT AT GENERAL QUARTERS, WAS UNREADY TO SUSTAIN DAMAGE AND WAS ULTIMATELY LOST EVEN THOUGH THE MISSILE DID NOT DETONATE. BY CONTRAST, THE DESTROYER GLAMORGAN WAS STRUCK BY AN EXOCET MISSILE THAT DID DETONATE, AND WHILE A MAJOR FIRE AND SHRAPNEL CASUALTIES KILLING 13 MEN RESULTED, THE SHIP WAS ABLE TO CONTINUE OPERATIONS WITH ARMAMENT





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AND WEAPONS SYSTEMS INTACT BECAUSE SHE WAS READY.

### RULES OF ENGAGEMENT

A NEW LESSON TO BE LEARNED FROM THE FALKLANDS, IN CONTRAST TO EARLIER WARS, IS THAT IN AN ERA OF MODERN COMPUTER AND SATELLITE COMMUNICATIONS THERE MUST BE MUCH GREATER ATTENTION TO COMMAND, CONTROL AND RULES OF ENGAGEMENT. FIRST, MODERN COMMUNICATIONS ARE NOW ABLE TO PROVIDE A VERITABLE NIAGARA OF COMMUNICATIONS FOR THE OPERATORS IN THE WAR. THE BRITISH COMMANDER IN THE FIELD WAS AT TIMES OVERWHELMED BY THE VOLUME OF INFORMATION AND DIRECTION COMING TO HIS FLAG SHIP. MUCH GREATER ATTENTION MUST BE GIVEN TO DISCIPLINING COMMUNICATIONS IN FUTURE CONFLICTS. THIS IS POTENTIALLY A MAJOR PROBLEM AS AMERICAN FORCES MODERNIZE COMMUNICATIONS AT ALL LEVELS. ALL OF IT MUST STILL FUNNEL INTO THE DECISION MAKING COMMANDERS IN THE FIELD. SECOND, SUCH EFFECTIVE REAL-TIME COMMUNICATIONS CARRIES WITH IT THE TEMPTATION FOR HIGHER COMMANDERS TO MICRO-MANAGE OPERATIONS IN THE FIELD. THIS DOES NOT SEEM TO HAVE BEEN A PROBLEM FOR THE BRITISH FORCE BECAUSE OF A PRUDENT DELEGATION OF AUTHORITY TO THE ON-SCENE COMMANDER BY THE POLITICAL DECISION MAKERS AND NATIONAL COMMAND AUTHORITIES. SUCH DELEGATION, HOWEVER, CARRIES WITH IT THE NECESSITY FOR CAREFULLY THOUGHT THROUGH PRE-APPROVED RULES OF ENGAGEMENT. THIS IS PARTICULARLY RELEVANT TO U.S. FORCES FORWARD DEPLOYED IN CRISIS SITUATIONS. THE MORE SO TODAY BECAUSE AS ADMIRAL GORSHKOV HAS PUT IT SO WELL, THERE IS AN ENORMOUS PREMIUM ON "THE STRUGGLE FOR THE FIRST SALVO."



## AMMUNITION SUSTAINABILITY

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THE FALKLANDS IS YET ANOTHER REMINDER, FOLLOWING ON EVERY WAR SINCE KOREA, THAT RATES OF CONSUMPTION OF HIGH TECHNOLOGY WEAPONS ALWAYS EXCEED EVEN GENEROUS ESTIMATES BY PLANNERS. SURRENDER BY THE ARGENTINES SEEMS TO HAVE COME IN THE NICK OF TIME FOR THE BRITISH FORCES WHOSE SUPPLIES OF MAJOR MUNITIONS WERE BEING DEPLETED.

IT IS PERPLEXING TO AMERICAN PLANNERS TO HEAR VOICES IN THE U.S. CONGRESS SUGGESTING THAT DEFENSE IS GETTING TOO MUCH BUDGETARY SUPPORT BECAUSE AFTER 15 YEARS OF NEGLECT WE DO NOT HAVE THE ABILITY TO FILL THE LAUNCHERS AND MAGAZINES OF OUR ACTIVE FLEET OF 514 SHIPS EVEN ONCE WITH HIGH TECHNOLOGY MUNITIONS.

ANOTHER IMPORTANT LESSON OF THE FALKLANDS FOR U.S. FORCES IS ILLUSTRATED BY THE BRITISH SINKING OF THE BELGRANO WITH 50 YEAR OLD TORPEDOS. SINCE IT IS NOT LIKELY UNDER PRESENT FUNDING CONSTRAINTS THAT WE WILL BE ABLE TO ACQUIRE SUFFICIENT NEW MUNITIONS, IT IS IMPERATIVE THAT WE DO BETTER AT HOLDING ON TO THE OLDER GENERATION OF STILL USEFUL WEAPONS RATHER THAN SCRAPPING OR SELLING THEM AS HAS BEEN THE PRACTICE IN RECENT TIMES.

## AMPHIBIOUS OPERATIONS

THE OBJECTIVE OF THE BRITISH OPERATION CORPORATE WAS TO RECAPTURE THE FALKLANDS, SOUTH GEORGIA, AND SOUTH SANDWICH ISLANDS. THE MAJOR AMPHIBIOUS OPERATION WAS IN THE FALKLANDS. THE BRITISH LANDING FORCES, CONSISTING OF ROYAL MARINES AND BRITISH ARMY SOLDIERS, WERE CARRIED TO THE FALKLANDS IN A SMALL NUMBER OF SPECIALIZED AMPHIBIOUS SHIPS OF THE LST AND



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LPD TYPE, AND A LARGE NUMBER OF MERCHANT SHIPS.

THROUGH CAREFUL PLANNING, SKILL, AND GOOD FORTUNE, THE MAIN LANDINGS AT SAN CARLOS WERE CARRIED OUT WITHOUT INITIAL OPPOSITION. THIS ILLUSTRATES AN OFTEN OVERLOOKED ADVANTAGE OF AMPHIBIOUS ASSAULT VIS-A-VIS THE OPPOSITION. WHILE IT IS DIFFICULT IN THE ERA OF MODERN COMMUNICATIONS AND INTELLIGENCE TO ACHIEVE STRATEGIC SURPRISE, IT IS STILL VERY EASY TO ACHIEVE TACTICAL SURPRISE AND TO LAND "WHERE THEY AIN'T." FOR INSTANCE, A MARINE AMPHIBIOUS BRIGADE OFF THE COAST OF THE VIRGINIA CAPES AT DUSK, CAN LAND ANY WHERE BETWEEN THE TIP OF LONG ISLAND AND CAPE HATTERAS BEFORE DAWN.

THE BRITISH WERE AT A SUBSTANTIAL DISADVANTAGE IN THEIR FALKLANDS AMPHIBIOUS LANDINGS BECAUSE THEY DID NOT HAVE AIR SUPERIORITY. U.S. CARRIERS WOULD PROVIDE AIR SUPERIORITY OVER ANY U.S. AMPHIBIOUS LANDING.

THE LANDINGS AT SAN CARLOS, WHICH BEGAN IN DARKNESS AT 0340 LOCAL TIME, WERE CARRIED OUT BY 16 LANDING CRAFT CARRYING TROOPS AND EQUIPMENT FROM THE SHIPS OFF SHORE TO THE BEACH. AT DAWN, SHIP BASED HELICOPTERS JOINED IN THE SHUTTLE OF SUPPLIES TO THE BEACH. THE BRITISH BEACHHEAD WAS FIRMLY ESTABLISHED WHEN ARGENTINE AIR RAIDS BEGAN IN THE AFTERNOON. THE LATER AMPHIBIOUS LANDINGS AT FITZROY WERE ALSO INITIALLY UNOPPOSED, BUT UNLIKE THE SAN CARLOS LANDINGS, THOSE WERE INITIALLY CONDUCTED UNDER NIGHT AND POOR VISIBILITY CONDITIONS. WHEN THE WEATHER DID CLEAR, TWO AMPHIBIOUS SHIPS WERE SEVERELY DAMAGED IN AIR ATTACKS.



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THE BRITISH EXPERIENCE DEMONSTRATED THAT AMPHIBIOUS SHIPPING CAN SURVIVE AGAINST AIR ATTACKS, ALTHOUGH NOT WITHOUT LOSSES. MOST OF THE MERCHANT SHIPS EMPLOYED TO CARRY TROOPS AND MATERIEL INTO THE FALKLAND SOUND MOUNTED ONLY A FEW 20 MILLIMETER GUNS. THE TWO LARGE RN ASSAULT SHIPS OF THE FEARLESS CLASS DID HAVE SEA CAT MISSILES AND 40 MILLIMETER GUNS AS WELL AS PASSIVE ECM INCLUDING CHAFF. BUT THE SMALLER LOGISTIC LANDING SHIPS HAD ONLY LIGHT GUNS INSTALLED.

THE U.S. NAVY'S AMPHIBIOUS SHIPS, WHICH ARE ARMED, ARE BEING FITTED WITH VARIANTS OF THE SLQ-32 AND CHAFF, COULD BE EXPECTED TO HAVE A SIGNIFICANT CAPABILITY AGAINST THE SAME LEVEL OF THREAT. THE U.S. NAVY IS INVESTIGATING THE POSSIBILITY OF PROVIDING BOLT-ON SELF-DEFENSE SYSTEMS FOR MERCHANT SHIPS THAT MAY BE CALLED UPON TO SUPPORT U.S. AMPHIBIOUS OPERATIONS.

THE U.S. NAVY CURRENTLY HAS SEVERAL TIMES THE BRITISH AMPHIBIOUS LIFT WITH 60 ACTIVE AMPHIBIOUS SHIPS, ALL SIGNIFICANTLY LARGER THAN COMPARATIVE BRITISH TYPES, PLUS FOUR SHIPS IN THE NAVAL RESERVE FORCE. IN ADDITION, ONE OF THE MOST DRAMATIC BREAKTHROUGHS IN RECENT AMPHIBIOUS FORCE AUGMENTATION HAS BEEN THE ESTABLISHMENT OF THE MARITIME PREPOSITIONING SHIPS, THE TAKX, 13 OF WHICH ARE UNDER CONTRACT. THIS WILL ENABLE THE LIFT OF THREE COMPLETE MARINE AMPHIBIOUS BRIGADES INTO AN UNOPPOSED ENVIRONMENT. IN ADDITION, THE REAGAN ADMINISTRATION HAS PROGRAMMED A GROWTH FROM ONE MARINE AMPHIBIOUS FORCE (MAF) EQUIVALENT LIFT TO ONE MAF PLUS AN ADDITIONAL MAB OF AMPHIBIOUS LIFT. IN THE CURRENT FIVE-YEAR PLAN THERE ARE 12 SHIPS OF THE LSD-41 AND THE LHD-1 CLASSES, THE LATTER BEING AN AMPHIBIOUS SHIP THAT IS CONVERTIBLE INTO A V/STOL CARRIER.





## NAVAL GUNFIRE SUPPORT

THE FALKLANDS AGAIN ILLUSTRATED THE ESSENTIAL VALUE OF NAVAL GUNFIRE SUPPORT. DURING THE BATTLE 17 BRITISH DESTROYERS AND FRIGATES MOUNTING A TOTAL OF 21 4.5 INCH NAVAL GUNS FIRED 7900 ROUNDS IN SUPPORT OF THE LANDINGS AND SUBSEQUENT LAND CAMPAIGN. THIS FIRE SUPPORTED FRIENDLY TROOPS, SUPPRESSED ENEMY FIRE, DESTROYED ENEMY SUPPLIES AND AIRCRAFT ON THE GROUND, AND SERIOUSLY HURT THE MORALE OF THE DEFENDERS. THE BRITISH WERE LIMITED BY GUN CALIBER, AND HENCE HITTING POWER AND RANGE. THE UNITED STATES NAVY CURRENTLY HAS A VERY LARGE NUMBER OF FIVE INCH GUNS IN THE FLEET AND IS RECOMMENDING IN THE 1984 BUDGET THE PROCUREMENT OF THE FIVE-INCH LASER-GUIDED-PROJECTILE WHICH WILL GREATLY INCREASE THE ONE-SHOT KILL CAPABILITY OF NAVAL GUNFIRE.

THE MOST DRAMATIC INCREASE IN NAVAL GUNFIRE TOOK PLACE IN DECEMBER, WHEN THE BATTLESHIP NEW JERSEY WAS RECOMMISSIONED FIVE WEEKS AHEAD OF SCHEDULE AND UNDER BUDGET. THIS ONE SHIP CAN DELIVER 803 TONS OF A VARIETY OF 16 INCH AND 5 INCH AMMUNITION TYPES IN THE SPACE OF ONLY 30 MINUTES. THAT IS THE EQUIVALENT OF 20 MODERN DD-963 DESTROYERS. IT CARRIES MORE THAN 7000 ROUNDS OF AMMUNITION IN ITS MAGAZINES. THE BATTLESHIP IOWA WILL BE DELIVERED TO THE FLEET IN EARLY 1984, AHEAD OF SCHEDULE AND ON BUDGET. MONEY FOR REACTIVATION OF USS MISSOURI IS CONTAINED IN THE 1984 BUDGET AND MONEY FOR REACTIVATION OF USS WISCONSIN WILL BE IN THE 1985 BUDGET. THE 26 MILE RANGE OF THE IOWA CLASS 16 INCH GUNS MEANS THAT NAVAL GUNFIRE CAN COVER 90% OF THE MILITARY TARGET IN CUBA, FOR INSTANCE, AND THE MAJORITY OF NORTH KOREAN BUNKERED AIRFIELDS.



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AS A RESULT OF OUR ANALYSIS WE HAVE MADE SOME CHANGES TO THE PACE AND SCOPE OF CERTAIN FLEET MODERNIZATION PROGRAMS AND SHIP ALTERATIONS. SOME OF THESE CHANGES ARE ACCOMMODATED IN THE FY-84 BUDGET AND MORE WILL BE REFLECTED AS OUR ANALYSIS IS REFINED AND WE PREPARE FOR THE FY-85 NAVY PROGRAM.

*Holmesworth, and a number of others*





